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ELECTRONIC WARFARE SENSOR ANALYST USER'S GUIDE

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Prepared For:

Mr. Derek Elsaesser *Scientific Authority*
Defence Research Establishment Ottawa
Electronic Warfare Division
Ottawa, Ontario

Prepared By:

Software Kinetics Ltd.
65 Iber Road
Stittsville, Ontario, Canada
K2S 1E7

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User's Guide

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Approvals	**Signature**	**Date**
Author	Elizabeth Roy	09 Apr 2001
Manager, Land EW Systems	for Luc Dumouchel, P. Eng	9/4/01

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1 INTRODUCTION

1.1 The IEW Simulator System Overview

Copy from IEW SIM Document

1.2 The EWSA Station Overview

The Electronic Warfare Sensor Analyst (EWSA) application is used to analyze emission data, formulate hypotheses about the location and nature of emitters in the field, formulate hypotheses about the types of enemy units attached to those emitters, and publish that data to other analysts and to the Tactical Sensor Analyst (TSA) station for publication to the ASIP.

Emission data comes from the IEW Simulator during playback of scenarios. The EWSA can configure one or more different types of sensor to detect emissions. Some of the sensors generate DF Fix information automatically. The data from other sensors can be analyzed by hand to determine DF Fix information. Based on the data provided by these sensors the analyst can group several fixes together and assign them to the same emitter. The analyst can then form a hypothesis about the movement of the emitter. Conversations can also be detected and assigned to a hypothetical unit. Once the analyst is confident about a hypothesis the unit and its track can be published so that it appears on the maps of other analysts running as part of the exercise.

The EWSA provides other forms of communication between the applications. Reports can be generated and sent to other applications. A mail utility allows the stations to send text messages to each other.

1.3 The Other stations

1.3.1 IEW Simulator

1.3.2 Tactical Situation Analyst Station

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2 STATION BASICS

2.1 Font Set

The IEW Simulator, EWSA and TSA support the APP-6A military symbol set. It is implemented as a special font, which should have been loaded during the installation process. However, if the set is not properly loaded, an error message will occur when any maps or browsers requiring the font set are opened.

To load the font set, copy (Ctrl-C) the fonts from the installation directory under "fonts" and paste (Ctrl-V) them into the fonts directory. This directory can be located by clicking on the Start button on the Windows toolbar. Click on "Settings >> Control Panel". Double click on the Fonts directory.

2.2 Conventions

2.2.1 Dates

Some fields which display dates and accept dates as input use the DTG (Date Time Group) format. This format uses two digits for the year, which does not conform to Year 2000 guidelines for specifying years. For example, 29 October 1999 12:00 p.m. local time is represented as "291200L OCT 99".

The software handles two digit date input by assuming a 100 year sliding window, i.e. the year is assumed to be within 50 years of the **current** year. Therefore, if today is 29 October 1999 and the data "181200L NOV 02" is entered, the year is assumed to be 2002, rather than 1902.

2.2.2 File Prompter Dialog

Several browsers use a file prompter dialog for specifying the file to save data to or load data from. The dialog is shown below.

Figure 2-1 File Prompter Dialog

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The text on the top left gives the current directory. The large pane under it displays directories under the current one. Double-clicking on an entry in this list will make that directory the current one. The bottom left field labeled "Drives" contains a pop-up list of all of the drives on the machine. Clicking on the down arrow to the right of the field pops up the list. Highlight an entry in this list to switch to that drive.

The panes on the right specify files. The middle pane lists files in this directory. The list is filtered by the criteria shown in the text pane at the bottom right labeled "Files of Type:". The filter is usually set to the appropriate extension for the file being saved or loaded, e.g. EMT for emitter types. Clicking on the down arrow to the right of the field displays the other filters available. Usually the only other filter is All Files (*.*). Once the appropriate files are displayed clicking on a file name selects it. Its name is filled into the text field at the top right, labeled "File Name:". Double clicking on the file name selects the file and accepts it as the current file. It is equivalent to selecting the file and clicking "OK".

As an alternative to selecting a file from the list the name may be typed directly into the "File Name" field. This is necessary when saving new files. In this case the field is created in the directory shown at the top left.

Once the right file name appears in the "File Name" field select the file by clicking "OK". Click "Cancel" to close the dialog and cancel whatever action required the file name.

2.2.3 Dialog and Prompter conventions

Throughout this document some shorthand is used for ease of reference.

The terms dialog and prompter are used interchangeably. These refer to small windows which pop up, usually requesting information from the user. In general dialogs present information and ask the user to make a choice. Prompters require the user to type in information.

Some dialogs are as simple as asking whether to continue with an operation, and asking for a "Yes" or "No" answer. In these cases, "No" will usually close the dialog without making any changes. If the "No" option is not explained in the document assume this is the case. If "No" has some other effect it will be discussed in the text.

In cases where a "Cancel" button is available in a prompter selecting it will close the dialog without making the change. This is usually not explained.

Some prompters are multi-page prompters. They request a lot of information from the users, so rather than present all of the information required at one time the user sees only a few items at a time. These prompters have three buttons: "Next", "Back" and "Cancel". Use "Next" and

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"Back" to move back and forth between the pages while entering the correct data. To complete entering data use the "Next" button to go to the last page of the prompter. On this page "Next" is replaced by "Finish". Use this to accept all of the changes. Use "Cancel" to close the prompter without saving any of the data.

Some prompters check the format of entered data before closing. If the data is improperly formatted or mandatory information is missing the prompter does not close. The incorrect data is highlighted. An error message may or may not appear indicating what is wrong with the data format. In general if there is default information in a text pane when the prompter opens use that data as a guide to the expected format of the data.

2.2.4 Menu Conventions

Throughout this document where the text says "Click on the widget" it means use the left mouse button to click. However, where ever it refers to bringing up a pop-up menu it means click with the right mouse button.

Some information panes on browsers have pop-up menus. The pop-up menus usually also appear on the menu bar at the top of the browser. The name of the menu which is used as a pop-up is included in a description of the pane. The pop-up can be used in any place where the menu name is given in instructions for performing an action.

Some menus have sub-menus. These are indicated by an arrow pointing to the right at the right edge of the menu. To open the sub-menu drag the mouse to the right of the menu option. In the case where the menu is at the right edge of the visible area of the screen drag the mouse to the left to bring up the sub-menu. To save explanation in the text sub-menu options are specified using a double arrow ">>" notation. For example, the Tools menu has an option "Configure" with a sub-menu listing the databases which can be configured. The Gazetteer Database is one of the databases that can be initialized. The explanation of how to initialize the Gazetteer Database would say: From the Tools menu select "Configure >> Gazetteer".

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3 GETTING STARTED

3.1 The Launch Pad

When the application starts a launch pad appears. The buttons on the launch pad bring up browsers. If the browser is already open but not the active window pressing the button will bring the browser forward, maximizing it if necessary. Some of the buttons flash when new data is available in that browser. Some of the buttons also have menus. These are discussed in more detail below.

Figure 3-1 The EWSA Launch Pad

From left to right the buttons are: the Map Browser button, the ESM Browser button, the Radar ESM Browser button, the Messages Browser button, the Mail Browser button, the Friendly Browser button, the Orbat Browser Button, the Tools button, and the Exit button.

The ESM, Radar ESM, Messages and Mail Browser buttons flash when new data is available.

The Map Browser button has a menu on it. More than one map can be open at a time. Clicking the button opens a new map centered on the default location set in the Station Configuration browser (see the section on Configuring the Station for more details.) The menu on the button shows a list of all currently open map browser, plus an entry to create a new map browser.

The Tools Button opens the Station Configuration browser. See the section on Configuring the Station for more details on this browser. Right-clicking on the button brings up the Tools Menu. This menu provides many utility functions, such as initializing databases, loading new database, configuring the networks, etc. These options are discussed in detail in the following sections.

The Exit button closes the application and all open browsers. When it is pressed a warning dialog opens asking the user to confirm whether the application should exit. Select **"Yes" to close the application or "No" to close the dialog without exiting the application.

The station can also be exited by clicking the Windows Widget "x" in the top right corner of the launch pad's header bar.

3.1.1 Tools Menu

When selected the Tools Button opens the Station Configuration dialog. See below for details on how to configure the station using this dialog. When the mouse is right-clicked on the Tools

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Button the Tools Menu appears. This menu provides options related to configuring the station, initializing databases, etc. These options are discussed in more detail below.

3.1.2 Exiting the Application

To exit the application click the Exit button on the launch pad. Alternatively, use the standard Windows widgets in the title bar of the launch pad. These are the "x" button in the top right corner of the window, or the "Close" option in the menu available from the icon in the top left corner of the window.

Any of the browsers can be closed using the Windows widgets as well.

3.2 Configuring the Station

3.2.1 LAN Networks

To run a simulation with a TSA station and several EWSA stations the network addresses of the other stations must be configured. This is done in the Network Connections Browser.

To open the Network Connections Browser select "Configure >> Networks" from the Tools menu. A warning dialog opens stating that this should only be performed by an experienced user. Click "OK" to proceed. The browser is shown below.

Figure 3-2 Network Connections Browser

There is one entry in the Networks list and one entry in the Connections list. Click on the network entry. A list of addresses appears in the right-hand pane. The columns are labeled Station, Type, Address and Port. The IEW-SIM station address has a letter "L" to the left of it to indicate that this is the local address.

While this browser supports a number of different functions, only those needed to set up the Simulator are discussed here. By default the address list contains an entry for the IEW-SIM, one TSA station and one EWSA station. All three addresses are set to the local machine. To run an exercise the addresses of the TSA and EWSA stations need to be edited to point to the correct machine, and new EWSA addresses need to be created.

The changes to the network configuration are saved when the Network Connections Browser closes.

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3.2.1.1 Adding an EWSA station address

By default only one EWSA station address appears in the list. If more than one EWSA station runs during an exercise a new entry must be made for each station.

From the Address menu or the pop-up menu in the address pane select "Create". A prompter opens asking for the Station Name, Station Type, IP Address and Port. Use the down arrows to the right of the Station Name and Station Type fields to view the pre-defined choices.

The drop-down list for Station Name defines EWSA1 to EWSA4. Select the appropriate name, or if required type in a new name. Set the Station Type to EWSA.

The IP Address field defaults to the local machine name. Enter either the machine name or the IP Address of the machine. Leave Port set to <default>. Click "OK". A confirmation dialog appears asking if the default port should be used. Click "OK".

Note that these instructions can be used to add an address for any other type of station address as long as the correct station type and IP Address are used. *Always use the default port.*

3.2.1.2 Editing the TSA station address

Select the TSA address in the list. From the Address menu or the pop-up menu in the address pane select "Edit". A prompter opens. Edit the IP Address field by entering the machine name or the IP Address of the TSA machine. *Always use the default port.* Click "OK" to save the changes.

3.2.2 Station configuration

- DTED and map directories

3.3 Other utilities available from the Tools menu

3.3.1 Convert Lat / Long

The Simulator provides a function to convert between UTM and Latitude / Longitude co-ordinates. From the Tools Menu select "Convert Lat/Long <-> UTM". The conversion dialog opens.

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Figure 3-3 Lat / Long <-> UTM Converter

Enter the UTM co-ordinates in the top field. Press the "UTM -> LL" button. The lat/long co-ordinates appear in the bottom field. Note that the latitude and longitude are represented as decimal values, not degrees minutes seconds.

To convert Latitude and longitude to UTM enter the data in the lower field. The values must be decimal values, not degrees minutes seconds. Press the "LL->UTM" key. The correct values appear in the top field.

To close the dialog press "Done".

3.3.2 Always on top

By default the launch pad always appears on the screen. Any windows which overlap with it appear underneath it. In this way the launch pad can always be found

To change this so that the launch pad behaves like a normal window go to the Tools Menu and select "Always on Top". A check mark appears next to the menu option to indicate the launch pad's status. It appears when the launch pad is on top.

To make the launch pad always appear again select the "Always on Top" menu option again.

3.3.3 Use Zulu time

The application can either display Zulu time or local time. When Zulu time is being used a check mark appears to the left of the menu option. A "Z" appears in DTG string e.g. "211240Z MAR 00".

To toggle between local and Zulu time go to the Tools menu and select "Use Zulu time".

3.3.4 Overlays – save, load, initialize

Overlays are markings on maps representing obstacles and other features of a battlefield terrain. These are stored in a special database on the Simulator. The database may be saved to file and loaded from file for sharing with other stations.

The directory where the overlay database is saved is specified in the station configuration. See the section above for more details on Station Configuration.

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3.3.4.1 Saving the overlay database

From the Tools Menu select "Overlays >> Save". A text dialog opens. Enter the name for the new file. Click "OK" to create the new file.

If a file by that name exists a dialog appears asking if the existing file should be over-written. Click "Yes" to save the file using that name. Click "No" to close the dialog without saving. To save the file under another name select "Overlays >> Save" again and specify a new name.

3.3.4.2 Loading and Merging existing overlay databases

From the Tools Menu select "Overlays >> Load". A confirmation dialog opens asking whether to replace existing overlays. Click "Yes" to delete current overlays and load the new database. Click "No" to import the existing database and merge it with any overlays currently in memory.

The new overlays appear on any open map browser. If existing overlays were deleted they disappear from the map.

3.3.4.3 Initializing the database

Initializing the database deletes all overlays currently in the database. From the Tools Menu select "Overlays >> Initialize". A confirmation dialog appears asking whether to proceed. Click "OK" to initialize the database.

3.3.5 Equipment Symbols

The Simulator uses the APP-6A military symbol set for equipment. The Equipment symbols can be edited using the Symbols Browser. Select "Configure >> Equipment" to open the Symbol Editor for Equipment Symbols. See the section below for a full discussion of the use of this browser.

3.3.6 Gazetteer

The Gazetteer Browser allows the user to create and edit map locations. These locations are used for positioning the map browsers. These locations can be used from an open map window to change the location shown. The default location used by new map browsers is specified in the Station Configuration. To change the default see the section on Station Configuration above.

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To open the Gazetteer Browser from the Tools Menu select "Configure >> Gazetteer". The browser opens.

Figure 3-4 Gazetteer Browser

The Gazetteer pull-down menu is also available as the pop-up menu in the list pane. A list of pre-defined locations appears in the list pane. The name of the area appears in the left column. The centre location appears in the right column. Editing these locations is described below.

3.3.6.1 Adding a new location

From the Gazetteer menu select "Add". An information prompter opens. The "Area" field is the name for this location. Location should be a geographic location in UTM co-ordinates. Datum is the particular map used to create the coordinates being used at this location. The drop-down list shows the datum supported by the Simulator.

Once the data is correct click "OK".

3.3.6.2 Editing a location

To edit a location select it in the list. From the Gazetteer menu select "Modify". Change the parameters as needed.

NOTE: Editing the pre-defined locations is not recommended.

3.3.6.3 Deleting a location

Select the location in the list. From the Gazetteer menu select "Remove". A confirmation dialog appears asking whether to proceed. Click "OK" to delete the entry.

3.3.7 Symbols (Units)

The Simulator uses the APP-6A military symbol set for units. The Unit symbols can be edited using the Symbols Browser. Select "Configure >> Symbols" to open the Symbol Editor for Unit Symbols. See the section below for a full discussion of the use of this browser.

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4 PERFORMING ANALYSIS DURING A SIMULATION

4.1 Setting up the map

4.1.1 Opening a Map Browser

Click on the map button on the Launch Pad. A map browser opens.

Figure 4-1 Situation Map Browser

4.1.2 Setting the location of the operation

When a map browser opens the map is centered on the default gazetteer location. This is set in the Station Configuration browser. See the section on Configuring the Station for more information on changing the default location.

4.1.2.1 Setting the area of interest

To change the area of interest to one of the entries in the gazetteer select the drop down list indicator next to the location field. A list of the pre-defined gazetteer locations appears. Select the appropriate location. The map location changes. This change only affects this map. See the section on the Station Configuration for information on changing the default location every time a map is opened. See the section on the Gazetteer for information about adding entries to this list.

4.1.2.2 Scrolling the map

To make small adjustments in the area shown on the map right-click on the map and drag the mouse across the map. This will drag the map in the direction the mouse moves, i.e. if you drag the map to the right, the area shown moves to the right, and area to the left of the map becomes visible.

To move farther across the map from the Map menu select "Scroll to Location". A text prompter opens with the current location in UTM co-ordinates. The drop-down list contains the locations defined in the gazetteer. Type in the new location in UTM co-ordinates or select an entry from the list. Click "OK". The map is re-positioned.

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4.1.3 Map operations and menus

The Map menu is the pop-up menu for the map pane. Scenario object graphics and overlay symbols on the map have their own pop-up menus. To open a graphic's menu select the graphic. Position the cursor over the graphic so that cross hairs appear and click the right mouse button. This requires accurate cursor placement over objects such as networks, which are represented as lines.

Map objects can also be selected by drawing a box around them. To do this click the left mouse button at what would be one corner of a box surrounding the object. Drag the mouse to the diagonally opposite corner of the box. A dashed line appears showing the box. When the mouse button is released all objects completely surrounded by the dashed lines are selected.

4.1.4 Adding Annotations – Overlays

In addition to objects used to simulate a battlefield scenario the map displays features used to mark areas of interest. These features are referred to as overlays. These include lines, circles, FEBAs, and arrows. Overlays are saved in a database which can be saved to file or loaded into another editing session or station. The overlay database can also be initialized to delete all current overlays. See the section on Overlays above for more information.

All overlay elements can be added using either the Annotations menu options or one of the buttons at the top of the map area. The button labels show a small picture of the feature they create.

Special editing options for overlays are discussed in the section on creating the overlay. Editing options common to all overlays are discussed below. Note that these editing options apply to the appearance of the overlay. Once it is drawn an overlay cannot be moved or made a different size. It can be deleted and a new overlay created.

4.1.4.1 Line, FEBA, Linear Obstacle, Anti-tank ditch

Lines, FEBAs, Linear Obstacles and Anti-tank ditches are drawn as a series of segments. The cursor is used to select a number of points by clicking on the map. A line is drawn from each point to the next one the user specifies. A FEBA is drawn as contiguous semi-circles. Linear Obstacles are drawn as a saw-toothed line. An anti-tank ditch is drawn as a line with small triangles pointing out. The points on linear obstacles and anti-tank ditches can be switched from one side of the line to the other using an option on the graphic's menu. This is discussed below.

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To add one of these linear features use either the menu option or the appropriate button. A dialog opens prompting for a description of the new overlay. This description is shown in the text pane of the map browser whenever the overlay is selected on the map. Enter the description and click "OK". The cursor becomes a cross-hair. Click once on the map to indicate the first end-point of the feature. A dashed line extends from the end-point to the cursor's current position. Re-position the cursor and click again. Continue until the entire feature has been drawn. Double-click on the last point to complete drawing the feature. The dashed line is replaced with the symbol for the new feature.

FEBAs, linear obstacles and anti-tank ditches are directional symbols. The direction of the graphic is the side of the line where the triangles, saw-tooth edges or scallops appear. The direction of a graphic can be changed from the graphic's menu. Select the overlay and pop-up the menu. Select "Change Direction". The line is re-drawn.

Anti-tank ditches have one more special feature. A completed ditch is represented by filling in the triangles. By default a ditch is drawn as incomplete, so the triangles are empty. To indicate that the ditch is complete select its graphic. From the pop-up menu select "Completed". The triangles are filled in. To change the status back to incomplete select the "Completed" menu option again. The line is redrawn.

4.1.4.2 Circle

To add a circle select the menu option or button. A dialog opens prompting for a description of the new overlay. This description is shown in the text pane of the map browser whenever the overlay is selected on the map. Enter the description and click "OK". The cursor becomes a cross-hair. Click once for the centre point of the circle. Click again to set the radius of the circle.

4.1.4.3 Arrow

To add an arrow select the menu option or button. A dialog opens prompting for a description of the new overlay. This description is shown in the text pane of the map browser whenever the overlay is selected on the map. Enter the description and click "OK". The cursor becomes a cross-hair. Click once to indicate the tail of the arrow. A dashed-line arrow appears to indicate what will be drawn after the second click. Click again to indicate the head of the arrow. The arrow points from the first click location to the second.

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4.1.4.4 Rectangle

To add a rectangle select the menu option or the button. A dialog opens prompting for a description of the new overlay. This description is shown in the text pane of the map browser whenever the overlay is selected on the map. Enter the description and click "OK". The cursor becomes a cross-hair. Click on the location of one corner. A dashed line extends from the first corner to the cursor. The dashed line represents one side of the rectangle. Click to indicate the second corner. Now when the cursor moves a rectangle appears. Click again to set the second dimension of the rectangle.

4.1.4.5 Text

To add text to the map select the menu option or the button with the letter "A" in it. A dialog opens prompting for the text. Enter the text that should appear on the map. Click "OK" to close the dialog. The cursor becomes a cross-hair. Click on the location on the map where the left edge of the text should appear.

NOTE: The font size is determined by the map scale. It cannot be changed by the user.

To edit the text select it on the map. Pop-up its menu and select "Edit Description". A text prompter opens containing the text. Change it as needed and click "OK".

4.1.5 Editing Overlays

4.1.5.1 Changing colour

Select the overlay. Pop-up the overlay's menu and select "Change Colour". A dialog opens with a set of colours. An "X" appears on top of the current colour of the overlay. Select the new colour and click "OK". The overlay is still selected. Click somewhere else on the map to de-select the overlay and see its new colour.

4.1.5.2 Changing line thickness

Select the overlay. Pop-up the overlay's menu and select "Change Line Thickness". A text prompter opens. Enter a number between 1 and 20 and click "OK". The overlay is re-drawn with a different size line.

NOTE: This option is not available for text overlays.

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4.1.6 Push To Back

If several objects appear at the same location the map may be cluttered. Objects are stacked on the map in the order in which they were drawn. To make it easier to see a particular graphic the others may be pushed back, or moved under the other graphics at that location.

To push an overlay to the back select it. Pop-up the overlay's menu and select "Push To Back". The graphic is re-drawn.

4.1.7 Deleting Overlays

Select the overlay. Pop-up the overlay's menu and select "Delete Overlay". A confirmation dialog opens asking if it should delete the overlay. Click "Yes" to delete. The overlay disappears from the map.

To delete several overlays at once select them from the map. From the Map menu select "Delete Selected". A confirmation dialog opens asking if it should delete all selected models. Click "Yes" to delete all selected objects. This may include both overlays and scenario objects. The selected objects disappear from the map.

To delete all overlays on the map at once go to the launch pad. From the Tools Menu select "Overlays >> Initialize". A confirmation dialog opens asking whether to initialize the overlay database. Click "OK" to proceed. All overlays on any open map browser disappear.

4.1.8 Loading map information

If map data is available for the area of interest it may be loaded into the builder and the simulator. The map data path must be configured. See the section on configuring the station for more details.

On the map browser click the Map button. It is the button with the globe on the left side of the browser. The map appears in the background. Press the button again to hide the map.

If the map directory has not been set correctly or there is no map for this location and scale an error dialog appears indicating that the directory does not exist, or that no map exists for this location and scale. The background of the map remains black.

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4.1.8.1 Adjusting the map brightness

If the map is too bright it may be difficult to see the scenario object symbols on the map. The vertical scroll bar to the right of the information window at the bottom of the map controls the brightness. Drag it downwards to dim the map. Drag it upwards to brighten the map.

4.1.9 More map setup options

4.1.10 Viewing 3D area information

If ** DTED data is available for the area of interest it may be viewed to gain an idea of the relative elevations of the area. The DTED information path must be configured. See the section on configuring the station for more details.

From the ** Map menu select "View 3D Elevation". A 3D viewer opens for the area of interest. Use the dials on the bottom and left of the image to rotate the view. Use the dial on the right to zoom in and out.

** Other options for this browser?

4.1.11 Printer Setup

**

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4.1.12 Print

4.1.13 Miscellaneous map options

4.1.13.1 Push to back

4.1.13.2 Show info

4.1.13.3 Hide Networks

4.2 Configuring the EWSA platform

The EWSA is modeled as a platform containing sensors. The platform has one or more masts, each of which may have one or more antennas. Sensors are assigned to a specific antenna. The sensors must be configured before the simulation runs.

4.2.1 The Platform Browser

The Platform Browser controls the platform configuration. Sensors are added using this browser.

To open the Platform Browser click the Platform Browser button on the launch pad. The following browser opens.

Figure 4-2 Platform Browser

In the top left pane are several editable fields describing characteristics of the platform. The Platform Name is taken from the Network Configuration. See that section for more information on configuring the station. The location shows the current location of the EWSA station in UTM co-ordinates. The vehicle type has a drop-down list which is used to set the type of vehicle. The Number of Analyst field is not used.

The top right pane describes vehicle parameters. The volume, maximum load and power are all editable.

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The pane labeled "Mast List" displays masts assigned to the platform. Selecting a mast in this list displays the antennas assigned to that mast in the "Antennas List" pane on the right. If no mast is selected the antennas list is empty.

The bottom pane, labeled "Sensors List", shows the sensors assigned to the platform.

4.2.1.1 Adding a Mast

From the pop-up menu in the mast list select "Add Mast". A properties prompter opens. Edit the mast name and weight as needed. Click "OK" to save the data and create the new mast.

4.2.1.2 Editing a Mast

Select the mast in the list. From the pop-up menu select "Edit Mast". The prompter used to create the mast appears. Edit the parameters as needed. Click "OK" to save the changes. Click "Cancel" to close the prompter without changing the parameters.

4.2.1.3 Deleting a Mast

Select the mast in the list. From the pop-up menu select "Delete Mast".

4.2.1.4 Adding an Antenna

Antennas must be assigned to a mast. In the mast list select the appropriate mast. From either the mast list or the antenna list pop-up the menu and select "Add Antenna". A prompter opens. Edit the antenna name, type, weight, height and gain as needed. Click "Finish" to save the data and create the new mast.

4.2.1.5 Editing an Antenna

Select the antenna in the list. From the pop-up menu select "Edit Antenna". The prompter which was used to create the antenna appears. Edit the parameters as needed. Click "Finish" to save the changes. Click "Cancel" to close the prompter without saving the changes.

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4.2.1.6 Deleting an Antenna

Select the antenna in the list. From the pop-up menu select "Delete Antennas". Other Antenna Menu options

4.2.1.7 Adding a Sensor

Individual types of sensors are discussed in the next section. All sensor types are added to the platform the same way. For DF Sensors at least one mast and one antenna must be defined.

From the pop-up menu in the sensor list select "Add Sensor". From the sub-menu select the type of sensor to be added. A prompter which is specific to that sensor appears. Edit the sensor parameters as needed. Click "OK" or "Finish" to save the data and create the new sensor.

4.2.1.8 Editing a Sensor

Select the sensor in the list. From the pop-up menu in the sensor list select "Edit Sensor". The prompter which was used to create the sensor appears. Edit the parameters as needed. Click "OK" or "Finish" to save the data. Click "Cancel" to close the prompter without changing any of the data.

4.2.1.9 Browsing a Sensor

Select the sensor in the list. From the pop-up menu in the sensor list select "Browse Sensor". The sensor's browser opens. See the description of the various sensors below for more information on these browsers.

4.2.1.10 Delete Sensor

Select the sensor in the list to be deleted. From the pop-up menu in the sensor list select "Delete Sensors". The sensor is removed from the list.

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4.2.2 The Sensor Types

4.2.2.1 DF Sensor

The Direction Finding Sensor, or DF Sensor, is used to determine the location of an emission. A DF Sensor creates a Line of Bearing (LOB) for each emission that it detects. A Line Of Bearing contains the origin point, which is the sensor's location, the angle or bearing to the emission, the time of the emission and the frequency. Two or more Lines Of Bearing on the same frequency at the same time but with different origins are combined to determine a DF Fix, or Direction Finding Fix. A DF Fix is a probable location of an emitter.

In order to obtain multiple lines of bearing on the same emission more than one DF Sensor must be running at the same time, scanning the same frequencies. In general each EWSA station should have at least one DF Sensor. One EWSA is designated the DF Master. Only the DF Master can assign the task list; that is, the list of frequencies that the DF Sensors scan on. The master then receives any Lines Of Bearing generated by the other stations and calculates DF Fixes from the data. All computed fixes, plus any Lines Of Bearing which cannot be incorporated into a DF Fix, are reported back to all of the EWSA stations and are stored in their tactical databases for manual processing by the analysts.

Once the DF Sensors are defined and the task list is set all Lines Of Bearing are automatically reported to the DF Master and the DF Fixes are automatically created.

4.2.2.1.1 Adding a DF Sensor

See "Adding Sensors" above. The parameters for a DF Sensor are described below.

The Sensor name can be any string. It should be unique from the other sensor names for ease of reference.

The Cor value and the frequency range start and end values should be related to the tasks which are assigned to this sensor. The space required and weight are not currently used in any calculation.

The Antenna drop-down list shows all of the currently defined antennas on the platform. Select the appropriate antenna from the list.

The Sensitivity is used to determine whether the path loss from an emitter is too great for the signal to be detected. Also note that the gain of the antenna is used in the calculation of path loss. Antenna gain can be set by editing the antenna. See "Editing an Antenna" above.

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4.2.2.1.2 The DF Sensor Browser

The DF Sensor Browser is shown below. To open it select the DF Sensor in the list on the Platform Browser. From the sensor list menu select "Browse Sensor" or double-click the list entry.

Figure 4-3 DF Sensor Browser

The top left area displays sensor parameters. The top right area contains editable fields for Error Probability and Dwell Time. These values are currently not used in any calculations.

The middle pane displays DF Tasks. These consist of frequencies to be scanned, along with other scanning parameters such as bandwidth and COR levels. All DF Sensors which are running during the same simulation will have the same task list. However, tasks can only be created or deleted by the DF Master. See previous section on how to become the DF Master. DF Sensors which are not DF Masters will have tasks automatically displayed in their list when the tasks are created by the DF Master. Edited and deleted tasks are also updated automatically on slave DF Sensors.

The bottom pane displays all of the lines of bearing detected by this DF Sensor. These lines of bearing are displayed as soon as they are detected and continue to be displayed after they have been reported to the DF Master, turned into fixes, and displayed in the ESM Browser. The list can be cleared by going to the Tools menu on the launch pad and selecting "Initialize >> Sensor DB". The list is cleared automatically when the IEW Simulator begins playing a scenario.

4.2.2.1.3 Becoming DF Master

The IEW Simulator determines which EWSA station is the DF Master. Generally the first one to identify itself with the IEW Simulator is the DF Master, i.e. the first EWSA station running is the master.

Only the DF Master can create, edit, or delete DF Tasks. These options are available from the pop-up menu in the task list. If the EWSA station is not the DF Master the task list menu options are disabled.

To request that this EWSA station be made the master open a Map Browser. Select the EW graphic on the map. From the graphic's menu select "Become Master". After a second or two the display string in the map's information pane should display the string "DF Master".

NOTE: The DF Master status can also be viewed in the Network Address Browser. See the section on Configuring Network Addresses for more information.

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4.2.2.1.4 Creating Tasks

This menu option is only enabled on the DF Master. From the Task list pop-up menu select "Create Task". A prompter opens. Edit the task values as needed. Click "Finish" to save the values and create the new task.

The new task will automatically appear on the other EWSA stations with DF Sensors.

NOTE: There is a current limitation in that DF Sensors which are defined after a task has been created will not receive the current task list when they are created. This needs to be fixed. Currently the only work-around is to have the DF Master edit the tasks and save them. This will cause the tasks to be sent to the new slave sensor.

4.2.2.1.5 Editing Tasks

This menu option is only enabled on the DF Master. Select the task to edit. From the Task list pop-up menu select "Edit Task". Edit the task parameters as required. Click "Finish" to save the values. Changes are automatically propagated to the other DF Sensors.

4.2.2.1.6 Deleting Tasks

This menu option is only enabled on the DF Master. Select the task to delete. From the Task list pop-up menu select "Delete Tasks". A confirmation dialog opens asking whether the task should be deleted. Click "OK" to proceed. The task is automatically deleted on the other DF Sensors.

4.2.2.1.7 Deleting Lines Of Bearing

Select the Lines of Bearing to be deleted. From the pop-up menu in the Lines of Bearing list select "Delete LOBs". The selected entries are removed from the list.

To delete all Lines of Bearings from the Tools menu on the launch pad select "Initialize >> Sensor DB". This is also done automatically any time the IEW Simulator begins playing a new scenario.

4.2.2.2 RASP

The RASP scans a range of frequencies and displays activity on any of the frequencies in the range which is being scanned.

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4.2.2.3 Cell Phone Sensors

4.2.2.4 Single Channel Emitters

4.3 Viewing data during the playing of a scenario

As a simulation is running incoming data can be viewed in a number of ways.

4.3.1 Sensor Browsers

See the sections above on the individual sensors to determine how data can be seen on each of them.

4.3.2 Ether Monitor

The Ether Monitor is a transcript of data received from the IEW Simulator.

To open the Ether Monitor go to the Tools menu on the launch pad. Select "Ether Monitor" from the menu. The browser opens.

The Browser shows a display of Emitters as they are created by the Simulator. Active emitters are regular communication emitters. Their emissions are of interest during tactical simulations. Static Emitters are emitters which are continuously emitting, such as broadcast emitters. They simulate background emissions in a tactical situation, such as radio stations or taxi bands.

The lower part of the transcript shows active emissions as they happen. If the message is a voice message the gist is displayed in the transcript for the duration of the emission.

4.3.3 Map Browser

During playback of a scenario some data can be viewed in a Map Browser. As DF Fixes are computed they appear on the map. If a line of bearing cannot be included in a DF Fix it may be reported to the tactical database. In this case it will appear on the map browser.

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4.3.4 Audio Data

Some emissions have audio files associated with them to simulate hearing an emission as it happens. To listen to an emission it must be selected. Details on how to do this will be filled in later.

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5 PROCESSING DATA

5.1 ESM Browser

The Electronic Support Measures or ESM Browser contains data about detected emissions. It can be used to study data received during a simulation. This section contains a description of the browser. Its use is discussed further in the section on forming hypotheses.

Modifications made to data in this browser is reflected on any open maps. For instance, DF Fixes created from lines of bearing will appear on the map. If DF Fixes are clustered their graphics disappear from any open maps and are replaced by the relevant cluster graphics.

5.1.1 Opening the browser

From the launch pad click the ESM Browser button. The browser opens.

Figure 5-1 ESM Browser

The labels for the panes appear above them. The labels change to indicate any filtering criteria applied to the lists. Each of the menus on the menu bar is a pop-up menu in the list pane of the same name, except the Location menu. It is the pop-up menu in the pane containing DFs, LOBs and Clusters.

The Frequency pane (Freqs) on the left of the browser lists all of the frequencies on which activity has been detected. The other panes in the browser list only the Intercepts, DFs, Emitters or Networks which have the same frequency as the current selection in the Frequency pane.

To the right of the Frequency pane is the Intercepts pane. It lists any intercepts which have been created based on received emissions. The pane next to Intercepts is the Location pane. It contains a list of the lines of bearings, DF Fixes and DF Clusters for the currently selected frequency.

The Emitters and Units pane under the Intercepts pane lists any Emitters or Units which appear on the map. The Networks list shows any networks which have been identified.

The text pane at the bottom of the browser shows a detailed description of the item most recently selected in any of the lists.

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5.1.2 Common functions

Some functions are available in several of the panes in the browser. They are described here.

5.1.2.1 Creating a TACREP

TACREPS can be created on Intercepts, DF Fixes, LOBs, Clusters, Emitters, Units or Networks.

Select the data to be sent. From the pop-up menu in that list select "Create TACREP". The TACREP editor opens. Edit the fields as necessary.

To send the TACREP immediately click "Send".

To save the TACREP for processing later click "Save". The TACREP is now saved in the Messages Browser. See the section on this browser for information about how to send messages.

5.1.2.2 Select on Map

Any of the items in the ESM Browser which appear on the map can be selected on the map. Only items from the same list can be selected at the same time.

Select the items in the list. From the appropriate menu select "Select on Map". Any open map browsers scroll to a location central to the selected objects. They are all highlighted on the map.

These objects can also be selected on the browser from the map. On any map browser select the graphic for the object. Open its pop-up menu. Select "Select <object> on ESM Browser", where <object> is the object type, such as DF Fix. Emitters do not provide this function. For Units select "Show >> Select Unit on ESM Browser". The Frequency for the object is selected and the object is selected in its list.

5.1.3 Frequency List

This list allows the management of frequencies.

5.1.3.1 Adding frequencies

Only friendly frequencies can be added directly to the frequency list. Hostile frequencies are added when other data is observed on that frequency.

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From the Frequency menu select "Add Friendly". Enter the frequency in Megahertz in the dialog and click "OK". The new frequency appears in the list.

5.1.3.2 Filtering displayed frequencies

By default all frequencies are shown in the list.

To show only frequencies of a certain allegiance open the Frequency menu and select "Enemy" or "Friendly" from the "Show" sub-menu. A check mark appears on the menu next to the current filter criteria. To undo the filter select "All" from the "Show" sub-menu.

Frequencies can also be filtered by the last transmission time for a frequency. To show only frequencies which have been active in the last thirty minutes open the Frequency menu and select "Activity Over >> Last 30 Minutes".

To show only frequencies which were active during a particular time period open the Frequency menu and select "Activity Over >> Time Range". A dialog opens asking for the start and end times which define the time span of interest. The times must be entered in DTG format. Click "OK". The frequency list is updated.

The last transmission time for a frequency is shown in the information pane at the bottom of the browser when the frequency is selected in the list. The time is determined by the time stamps on the data associated with that frequency, i.e. the latest time stamp on a Line Of Bearing.

5.1.3.3 Grouping Frequencies

Several frequencies may be grouped together.

To set the frequency span for frequency groups open the Frequency menu and select "Set Frequency Span". Enter the new frequency span in kHz and click "OK".

Any data entered with a frequency that is within the span range from an existing frequency is added to the original frequency as a sub-frequency. The existing frequency is the main frequency. It appears in the list with three dots after it. Double-clicking on the main frequency opens and closes a list of the sub-frequencies. All data for all of these frequencies is displayed whenever any of them is selected.

To change the main frequency select the current main frequency in the list. Open the Frequency menu and select "Set Main Frequency". A dialog opens with the list of all the frequencies in the group. Select one and click "OK". The list is updated.

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To group frequencies select them in the list. Open the Frequency menu and select "Group Frequencies". A dialog opens displaying the selected frequencies. Select the frequency that should be the new main frequency. Click "OK". NOTE: The selected frequencies should be within the frequency span, or they will not be grouped.

To remove a sub-frequency select it in the list. From the Frequency menu select "Remove Sub-Frequency". The frequency is moved from the sub-list and is listed independently.

Alternatively, select the main frequency the select "Remove Sub-Frequency". A dialog opens showing all the sub-frequencies in the group. Select the frequencies to be removed. Click "OK". The frequencies are moved from underneath the main frequency and appear independently in the list.

5.1.4 Intercepts List

5.1.4.1 Creating Intercepts

To create an intercept open the Intercept menu and select "Create". The Intercept Browser opens. Please see the section on this browser for more information on using it.

Intercepts should be created from emissions. See the section on creating intercepts on the Single Channel Sensor for more information.

5.1.4.2 Editing Intercepts

Select the intercept in the list. From the Intercept menu select "Edit". The Intercept Browser opens. Please see the section on this browser for more information on using it.

5.1.4.3 Deleting Intercepts

Select the intercept in the list. From the Intercept menu select "Delete". The Intercept is removed from the list.

To delete all intercepts older than a certain date select "Delete Old". In the dialog enter a time and date and click "OK". All intercepts with a start time prior to the specified time and date are deleted from the list.

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5.1.4.4 Printing

Select the intercept to be printed. From the Intercept menu select "Print Text" to send the file directly to the printer.

To create a text file select "Print to File". A File Prompter Dialog opens. Specify the directory and the name of the new file. Close the prompter. The new file is created. It can be opened using any text editor.

5.1.4.5 Filtering

5.1.4.6 Saving to disk

Saving to disk creates a text file which can be read in later or printed. Select the intercept to be saved. From the Intercept menu select "Save to disk". A File Prompter Dialog opens. Specify the new file name and directory. The new file is created. It can be viewed using any text editor.

5.1.4.7 Loading from disk

An intercept which was previously saved to disk can be loaded in. This technique is used for sharing intercepts between stations.

From the Intercept menu select "Load from disk". A File Prompter Dialog opens. Select the intercept and click "Open". A new intercept is created. It can be viewed by selecting its frequency in the Frequency list.

5.1.4.8 Correlating

5.1.5 Locations List – DF Fixes, LOBs and Clusters

5.1.5.1 Creating LOBs

Lines of Bearing are usually created by the DF sensors during the running of a scenario. They may also be entered in by hand.

From the Location menu select "LOBs >> Create LOB". A dialog opens. Enter the origin location in UTM co-ordinates. Edit the bearing and frequency to the correct values. Source ID

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may be left blank. The Quality Factor may be left as 5. By default the current date and time are filled in. Edit this field as needed, but the DTG format must be used. Click "OK".

The new line of bearing appears in the list. Its description is preceded by a "-" to indicate that it is a line of bearing. It appears in bold type to indicate that it is new. Select it and then select something else to mark the LOB as having been seen. If this is the first datum on a given frequency the new frequency is added to the frequency list. A new Line of Bearing prompter appears. Enter a new LOB or click "Cancel" to close the prompter. Any previously created Lines of Bearing are not affected by clicking "Cancel".

5.1.5.2 Creating DF Fixes

Line of Bearing can be combined to create a DF Fix. The fix is located at the place where the Lines of Bearing intersect. View the Lines of Bearing in the map to ensure that they intersect. Select the lines of bearing and open the Location menu. Select "Select on map". The map scrolls to show the lines of bearing and they are highlighted.

To create the DF Fix select the lines of bearing in the list. From the Location menu select "LOBs >> Create DF from LOBs".

If the selected LOBs are not on the same frequency a confirmation dialog opens asking if it should proceed. Click "Yes".

If the times of the LOBs are over 2 minutes a confirmation dialog opens. Click "Yes".

If the lines of bearing do not intersect an error message appears. No DF Fix is created.

The new DF Fix appears in the list. The LOBs which were used to create the fix still appear in the list and on the map.

DF Fixes may be entered by hand. From the Location menu select "DFs >> Create DF". A dialog opens. Enter the location in UTM co-ordinates. Edit the other values as needed. Click "OK". The new DF Fix is added to the list. It is preceded by a "." to indicate that this is a fix. If this is the first datum on this frequency the new frequency is added to the list. A new DF Fix prompter opens. Enter another DF Fix or click "Cancel" to close the prompter.

5.1.5.3 Creating DF Clusters

Clusters are created from one or more DF Fix. Select the DF Fixes in the list. From the Location menu select "Cluster Selected". A prompter opens asking for the maximum amount of

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time between DF Fixes which can be allowed to assign the fixes to the same cluster. Enter a time in seconds and click "OK".

The application forms clusters from all of the selected DF Fixes based on their locations. After clustering the DF Fixes are removed from the list and one or more clusters appear both in the browser and on any open maps.

5.1.5.4 Deleting LOBs

Select the LOBs in the list. From the Location menu select "LOB >> Delete LOBs". A confirmation dialog opens. Click "Yes" to proceed. The LOBs are deleted.

To delete LOBs older than a certain date select "LOB >> Delete Old LOBs". A dialog opens. Enter the desired time and date and click "OK". A confirmation dialog appears repeating the time and date. Click "Yes" to proceed. Any LOBs with a time stamp before that time and date are deleted.

5.1.5.5 Deleting DF Fixes

Select the DF Fixes in the list. From the Location menu select "DFs >> Delete DFs". A confirmation dialog opens. Click "Yes" to proceed. The DF Fixes are deleted.

To delete DF Fixes older than a certain date select "DFs >> Delete Old DFs". A dialog opens. Enter the desired time and date and click "OK". A confirmation dialog appears repeating the time and date. Click "Yes" to proceed. Any DF Fixes with a time stamp before that time and date are deleted.

5.1.5.6 Deleting DF Clusters

Clusters are not deleted, they are de-clustered. Select the cluster in the list. From the Location menu select "Decluster Selected". The clusters are removed from the list and the original DF Fixes are restored. The clusters are also removed from the map and replaced by the original DF Fixes.

5.1.5.7 Filtering

The contents of this list can be filtered to show various subsets of data. By default all fixes, clusters and lobs which have not been assigned to a unit or emitter are shown.

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To change the contents of the list open the Location menu and select the "Show" sub-menu. The options for display are: All unassigned data, unassigned DFs, unassigned LOBs, unassigned clusters, clusters which have been assigned to a unit, or lobs which have been assigned to a unit.

5.1.5.8 Saving to disk

Select one or more LOBs, DF Fixes or Clusters in the list. From the Locations menu select "Save to Disk". A File Prompter Dialog opens. Specify a directory and file name for the new file. Click "OK". A new text file is created.

5.1.5.9 Loading from disk

Once data from this list has been saved to disk the file can be read back in to create new data.

From the Location menu select "Load From Disk". A File Prompter Dialog opens. Select the text file. Click "OK". The new data appears in the list.

5.1.5.10 Printing

Select one or more LOBs, DF Fixes or Clusters in the list. From the Locations menu select "Print Text". The text file is sent to the printer. It has the same format as the text file created by saving to disk.

5.1.6 Emitters and Units List

5.1.6.1 Create Emitter

Emitters can be created by hand. From the Unit menu select "Create Emitter". In the prompter enter the emitter id, which should be unique, and location. Click "OK".

If any clusters are selected a dialog opens asking if the selected clusters should be assigned to the emitter. Click "Yes" to add the clusters.

5.1.6.2 Create Unit

From the Location menu select "Create Unit". In the prompter select the type, command level and CP Emitter id. Enter the unit id and unit location and click "OK".

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If an emitter was selected before creating the unit a dialog opens asking if the selected emitters should be assigned to the new unit. Click "Yes" to add the emitter. Click "Cancel" to cancel the creation of the unit.

5.1.6.3 Deleting List Entries

Select the entry. From the Unit menu select "Delete". The selected items are deleted.

5.1.6.4 Managing Unit Hierarchies

To set the super unit of a unit select the unit in the list. From the Unit menu select "Set Super Unit". A dialog opens with a list of all of the units in the tactical database. Select the unit which is the super unit of this unit and click "OK".

To add sub-units to a unit select the unit in the list. From the Unit menu select "Sub Units >> Add". A dialog opens with a list of the other units in the tactical database. Select the units to be assigned and click "OK". The new units are displayed in the list indented slightly to show their status.

To remove sub-units select the super-unit in the list. From the Unit menu select "Sub Units >> Remove". A dialog opens with a list of the sub-units. Select the sub-units to be removed and click "OK". The sub-units are moved from under their super-unit and appear independently in the list.

5.1.6.5 Assigning data

Any intercepts, lines of bearing, clusters, or callsigns can be assigned to a unit.

Select the intercept, LOB or cluster it its own list. From the Unit menu select the proper sub-menu and select "Add Selected". For example, to add an intercept select it in the list. From the Unit menu select "Intercept >> Add Selected". The data is assigned to the unit. The lists are updated appropriately.

To remove assigned data open the Unit menu and select "Remove" from the appropriate sub-menu. For example to remove LOBs select "LOBs >> Remove LOBs". A dialog opens with a list of the LOBs assigned to this unit. Select the LOBs to be removed and click "OK". The lists are updated appropriately.

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A Callsign can be assigned to a unit several ways. To specify a callsign open the Unit menu and select "Callsigns >> Add manually". A dialog opens. Enter the callsign for this unit.

To get the callsign from one of the intercepts open the Unit menu and select "Callsigns >> Add from Intercept".

To select from several callsigns assigned to the unit select "Callsigns >> Set Current". A dialog opens with the callsigns assigned to the unit. Select one and click "OK".

To remove a callsign select "Callsigns >> Remove". A dialog opens with the callsigns assigned to the unit. Select those to be deleted and click "OK".

5.1.6.6 Filtering

By default all units and emitters appear in the list. The list can be filtered to show either emitters or units. To change the list open the Unit menu. From the "Show" sub-menu select "All", "Emitters" or "Units".

5.1.6.7 Correlating

5.1.7 Networks List

5.1.7.1 Creating networks

From the Network menu select "Create" or from the Unit menu select "Create Network". In the prompter that opens fill in the id of the new network. A dialog opens with a list of emitters. Select the unit which should be the hub node and click "OK". A dialog opens with a list of the main frequencies in the Frequency list. Select the frequencies which apply to this network. Click "OK". For each selected frequency a prompter opens asking for the time at which this frequency was used on the network. Edit these times as needed. After the last dialog closes the new network appears in the Networks List.

5.1.7.2 Editing a network

Select the network in the list. From the Network menu select "Edit". A dialog opens with the network identifier. Edit as needed.

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5.1.7.3 Deleting a network

Select the network in the list. From the Network menu select "Delete". A confirmation dialog opens. Click "Yes" to proceed.

5.1.7.4 Adding frequencies to a network

To add a new frequency to a network select "Frequencies >> Add Manually". Enter the new frequency and the time at which it is used by the network. Click "OK".

To add a frequency from an emitter or network select the network. From the Network menu select "Frequencies >> Add from Emitters / Units".

To remove a frequency select "Frequencies >> Remove". A dialog opens with a list of frequencies assigned to this network. Select the frequencies to remove and click "OK".

5.1.7.5 Adding Units, Emitters, Intercepts to a network

5.1.7.6 Removing entities from a network

5.1.7.7 Filtering the list

Include viewing frequencies, emitters, etc. which belong to this network.

5.1.7.8 Viewing Network Diagrams

To view network diagrams select "View Networks". This opens the Network Diagram Browser. See the section on this browser for more information.

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5.2 Radar ESM Browser

5.2.1 Creating a Radar

5.2.2 Creating a TACREP

5.2.3 Editing a radar

5.2.4 Selecting on the map

5.2.5 Deleting a radar

5.3 From Fix to Unit

- Cluster, Define Emitter, Define unit
- Adding units and fixes by hand on the map

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6 SHARING DATA

6.1 Publishing and un-publishing

6.2 Sending TACREPS

6.3 Receiving published information

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7 MISC. BROWSERS

7.1 Friendly Browser

7.2 Orbat Browser

7.3 Emitter Types Database

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7.5 Mail Browser

7.5.1 How other stations appear in the list

7.5.2 Creating a message

7.5.3 Sending a message

This includes sending messages originally received from other stations

7.5.4 Message Status pane – last status (sent, sent & failed – status says failed)

7.6 Reports Browser

7.6.1 Types of Reports

7.6.2 Folder Management

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2. "Intelligence Electronic Warfare Battlefield Simulator User's Guide", Software Kinetics Limited Document #1600-155-015, March 2000

3. "Tactical Situation Analyst User's Guide", Software Kinetics Limited Document #1600-155-017, March 2000

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13. ABSTRACT

(U) THE ELECTRONIC WARFARE SENSOR ANALYST (EWSA) WAS DEVELOPED AT THE DEFENCE RESEARCH ESTABLISHMENT OTTAWA (DREO) TO ANALYZE DATA RECEIVED FROM THE IEW BATTLEFIELD SIMULATOR AND FORM ASSESSMENTS OF THE ENEMY TROOP STRUCTURE. IT WAS BUILT TO WORK WITH THE TACTICAL SITUATION ANALYST (TSA) STATION AND THE INTELLIGENCE ELECTRONIC WARFARE (IEW) BATTLEFIELD SIMULATOR

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